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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Seyfried *et al.*

Serial No.: To be assigned — Group Art Unit: 1652

Filed: Herewith — Examiner: D. Steadman

For: NOVEL ENZYMES WHICH DEHYDRATE GLYCEROL — Attorney Docket No.: 9342-029-999

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants respectfully request entry of this Preliminary Amendment. Accompanying this Preliminary Amendment is a Declaration under 37 C.F.R. § 1.67 (a)(2) signed by inventor Gregory Whited, an Abstract of the Disclosure as required by 37 § 1.72(b) and Formal Drawings. For the convenience of the Examiner a copy of the pending Claims after entry of this Amendment is attached as Exhibit A.

AMENDMENT

IN THE SPECIFICATION

Please replace the paragraph on page 8, lines 9-22 with the following amended paragraph:

Substantial sequence identity can be determined by the comparison of the entire genomic sequences of a putative *C. viterbiensis* and JW/MS-VS5^T. Alternatively, substantial sequence identity can be determined by the comparison of the 16S rDNA sequences of a putative *C. viterbiensis* and JW/MS-VS5^T. The sequence of all or a portion of the genome of JW/MS-VS5^T and a putative *C. viterbiensis*, particularly the sequence of the organisms' 16S rDNA, can be determined by conventional nucleic acid sequencing techniques well known to those of skill in the art (*see, e.g.*, SAMBROOK *ET AL.*, MOLECULAR CLONING, A LABORATORY MANUAL (1989) and CURRENT PROTOCOLS IN MOLECULAR BIOLOGY(Ausubel *et al.*, eds. 1989)). The sequences can then be compared, using methods of sequence comparison well known to the skilled artisan. For example, percent identity can be calculated using the

BLAST computer program, which has been described in the art (*see, e.g.*, Altschul *et al.*, *J. Mol. Biol.* **215**:403-10 (1990) and Altschul *et al.*, *Nucleic Acids Res.* **25**:3389-3402 (1997)).

Please replace the paragraph on page 37, lines 3-8 with the following amended paragraph:

C. viterbiensis type strain JW/MS-VS5^T was deposited on August 27, 1999 with the ATCC under the terms of the Budapest Treaty on the International Recognition of the Deposit of Micro-organisms for Purpose of Patent Procedure and is designated as ATCC PTA-584. "ATCC" refers to the American Type Culture Collection international depository located at 10801 University Boulevard, Manassas, VA 20110-2209. The designations refer to the accession number of the deposited material.

IN THE CLAIMS

Please cancel Claims 5-45 without prejudice.

Please add new Claims 46-59 as follows:

46. (New) The method of Claim 1, wherein the thermophilic organism is cultured under anaerobic conditions.

47. (New) The method of Claim 1, wherein the thermophilic organism is cultured under nitrogen.

48. (New) The method of Claim 1, wherein the thermophilic organism is cultured under argon.

49. (New) The method of Claim 1, wherein the thermophilic organism is cultured under a mixture of nitrogen and carbon dioxide in a ratio of about 80 to about 20.

50. (New) The method of Claim 1, wherein the thermophilic organism is cultured in the presence of an oxygen scavenger.

51. (New) The method of Claim 1, wherein the thermophilic organism is cultured in an anaerobic chamber.

52. (New) The method of Claim 1, wherein the thermophilic organism is cultured under microaerobic conditions.

53. (New) The method of Claim 2, wherein the collected 1,3-propanediol is further purified.

54. (New) The method of Claim 1, wherein the genome of the thermophilic organism is at least 95% identical to the genome of the organism deposited as ATCC designation PTA-584.

55. (New) The method of Claim 1, wherein the genome of the thermophilic organism is at least 99% identical to the genome of the organism deposited as ATCC designation PTA-584.

56. (New) The method of Claim 1, wherein the 16S rDNA sequence of the thermophilic organism is at least 95% identical to the 16S rDNA of the organism deposited as ATCC designation PTA-584.

57. (New) The method of Claim 1, wherein the 16S rDNA sequence of the thermophilic organism is at least 99% identical to the 16S rDNA of the organism deposited as ATCC designation PTA-584.

58. (New) The method of Claim 1, wherein the thermophilic organism is adsorbed on a solid support.

59. (New) The method of Claim 1, wherein the thermophilic organism is cultured under aerobic conditions.

REMARKS

With this Preliminary Amendment, Claims 5-45 have been canceled without prejudice and Claims 46-59 have been added. Thus, after entry of this Amendment, Claims 1-4 and 46-59 are pending in the instant Application. Applicants expressly reserve the right to prosecute claims drawn to canceled subject matter in one or more continuation, divisional or continuation-in-part applications.

AMENDMENT OF SPECIFICATION AND ADDITION OF ABSTRACT

The specification has been amended to delete a hyperlink and to provide the correct address for the American Type Culture Collection international depository. Further, an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b) is included with this response. No new matter is added by the amendment of the Specification and submission of the Abstract. Accordingly, entry into the instant Application is proper and respectfully requested.

ADDITION OF NEW CLAIMS

Support for new Claims 46, 47-49, 50, 51, 52, 53, 54-57, 58 and 59 may be found in the Specification at page 24, lines 27-29, page 26, lines 32-35, page 26, line 35 to page 27, line 5, page 27, lines 6-7, page 26, lines 31-32, page 8, lines 3-9, page 27, lines 24-25 and page 26, lines 31-32, respectively.

No new matter is added by the addition of Claims 46-59. Accordingly, entry into the instant Application is proper and respectfully requested.

NEW DECLARATION

The declaration of Gregory Whited filed on December 14, 1999 was defective because Mr. Whited made non-intialed and non-dated changes. A new declaration by Mr. Whited filed on August 30, 2001, is hereby submitted which obviates these defects.

CONCLUSION

Applicants respectfully submit that all pending Claims of the captioned Application satisfy all requirements for patentability and are in condition for allowance. An early indication of the same is therefore respectfully requested.

No fees are believed due in connection with this Amendment. However, the Commissioner is authorized to charge any required fee not included with this Preliminary

Amendment or credit any overpayment to Pennie & Edmonds LLP Deposit Account No. 16-1150 (order no. 9342-029-999). A duplicate copy of this sheet is enclosed for such purpose.

Respectfully submitted,

Date October 18, 2001

Sunil K. Singh 45,298
(Reg. No.)

for Thomas E. Friebel (Reg. No. 29,258)
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

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EXHIBIT A

1. A method of converting glycerol to 1,3-propanediol in a thermophilic organism, the method comprising:

providing a thermophilic organism that ferments glycerol to 1,3-propanediol; and

culturing the thermophilic organism under conditions such that 1,3-propanediol is produced.

2. The method of Claim 1, further comprising the step of collecting 1,3-propanediol produced by the thermophilic organism.

3. The method of Claim 2, further comprising the step of polymerizing the 1,3-propanediol into a polymer.

4. The method of Claim 3, wherein the polymer is poly(1,3-propylene terephthalate) (PPT).

46. (New) The method of Claim 1, wherein the thermophilic organism is cultured under anaerobic conditions.

47. (New) The method of Claim 1, wherein the thermophilic organism is cultured under nitrogen.

48. (New) The method of Claim 1, wherein the thermophilic organism is cultured under argon.

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